Dräger PulmoVista® 500
ICU Ventilation and Respiratory Monitoring

Making ventilation visible. Put the power of Electrical Impedance Tomography (EIT) to work for you and your patients. With the PulmoVista® 500, you can visualise regional ventilation distribution within the lungs – non-invasive, in real time and directly at bedside.

D-25283-2009

Dräger. Technology for Life®

Benefits

Visualise the entire ventilation cycle in real time

A lung-protective ventilation strategy requires optimal PEEP and tidal volume settings. Finding and maintaining these crucial settings during the course of therapy is challenging – even for experienced clinicians. Global parameters, which reflect the condition of the lung as a whole, do not provide a continuous picture of the patient's pulmonary function. Without continuous regional information, the assessment of how different lung regions respond to therapeutic interventions over time is reduced to guess work. The Electrical Impedance Tomograph PulmoVista 500 lets you continuously and directly observe ventilation in different lung regions, facilitating the development of individualised therapy.

Directly observe and monitor therapeutic manoeuvres

The PulmoVista 500 enables assessment of regional ventilation distribution as well as changes in end-expiratory lung volumes. You can observe the effects of therapeutic manoeuvres and monitor the results over time. With these insights, PulmoVista 500 helps you maintain the best possible distribution of air within the lungs and keeps you informed on the effects which conditions such as atelectasis, over-inflation, air trapping, pleural effusion or pneumothorax may have on ventilation.

Continuous, non-invasive bedside imaging

You can monitor pulmonary function for up to 24 hours at a time, directly at the bedside. A flexible silicone belt with 16 integrated electrodes is easily placed around the patient's chest and connected to PulmoVista 500. No invasive or stressful manoeuvres. No ionising radiation. No patient transport.

Valuable information at your fingertips

In addition to images, the Electrical Impedance Tomograph PulmoVista 500 generates in real-time global and regional impedance waveforms and parameters. It also provides trend views on ventilation distribution and changes of endexpiratory lung volume which lets you compare the current pulmonary status with previous ones. Moreover, the view “Diagnostics” enables a convenient analysis of ventilation distribution, regional compliance changes (CW, CL) and delays in regional ventilation (RVD) and is thus particular suitable for assessing therapeutic interventions such as PEEP trials. This information can provide you with a more complete picture and help guide your lung-protective ventilation strategy during the course of treatment.

Related Products

MT-6073-2008

Dräger Evita® Infinity® V500 ventilator

Combine fully-featured, high-performance ventilation with Infinity® Acute Care System integration to meet the challenges of today's health care environment.

D-43497-2012

Evita® V300

The Evita® V300 is a scalable and versatile device which offers high ventilation quality. To meet and master the changing conditions and challenges of your everyday hospital work you need flexible equipment with versatile opportunities.

Technical Data

AMBIENT CONDITIONS	
During operation	
Temperature (device)	5 to 40 °C (41 to 104 °F)
Temperature (electrode belt and cables)	5 to 45 °C (41 to 113 °F)
Atmospheric pressure	700 to 1060 hPa (10.15 to 15.37 psi)
Relative humidity	20 to 95%, without condensation
During storage and transportation	
Temperature	-20 to 40 °C (-4 to 104 °F)
Atmospheric pressure	500 to 1060 hPa (7.25 to 15.37 psi)
Relative humidity	20 to 90%, without condensation
SETTINGS	
Frame rate	10, 15, 20, or 30 frames per second
Frame rate with the option ADAP	10, 15, 20, 30, 40, or 50 frames per second
Cut-off frequency for low pass filter	10 to 300/min
Upper and lower cut-off frequencies for the band pass filter	30 to 300/min
PERFORMANCE CHARACTERISTICS	
EIT measurement	
Number of electrodes	16 electrodes plus 1 reference electrode
Feed current amplitude	80 to 90% of maximum patient auxiliary current conforming to IEC 60601-1 (3rd edition)
Feed current frequency	80 to 130 kHz
Display unit (Medical Cockpit Infinity C500)	
Resolution	1440 x 900 pixels
Contrast ratio	min. 500 : 1
Viewing angle	130°
OPERATING DATA	
Mains supply	
Mains supply nominal voltage and frequency range	100 V to 240 V, 50/60 Hz
Mains supply characteristics	mains supply must conform to clause 4.10.2 of IEC 60601-1 (3rd edition) and especially be overvoltage category II or lower according to IEC 60664-1
Current consumption	
at 230 V	max. 0.6 A
at 100 V	max. 1.3 A
Power consumption	
maximum during operation	125 W
typically during operation	approx. 80 W
maximum when device is switched off, but charging batteries	40 W
Integrated battery	
Type	2 x 12 V lead-acid battery
Fuse	F20AL 32VDC
Time bridged following a mains power failure with new and fully charged internal battery	min. 5 minutes (typically 10 minutes)

Technical Data

Charging	
Charging time (fully discharged batteries)	min. 12 hours
Sound pressure level (for free-field measurement over a reflecting surface)	max. 45 dB(A)
Dimensions (W x H x D)	
PulmoVista® 500 incl. trolley	600 mm x 1400 mm x 750 mm (23.62 inch x 55.12 inch x 29.53 inch)
Weight	
PulmoVista® 500 including trolley at maximum	44 kg (97 lbs)
Materials used	
Electrode belt	silicone rubber, conductive silicone rubber, stainless steel, gold-plated brass
Patient cable	plastics (thermoplastic polyurethane (TPU), polyamide (PA), polyurethane (PUR), polypropylene (PP), thermoplastic elastomer (TPE), polybutylene terephthalate (PBT))
Trunk cable	plastics (polyamide (PA), thermoplastic polyurethane (TPU), polyurethane (PUR))
CLASSIFICATION	
Applied parts	applied parts are: electrode belt, reference electrode, patient cable, trunk cable
Mode of operation	continuous
Protection against electric shock regarding	
External power supply	protection class I conforming to EN 60601-1
Applied part	type BF conforming to IEC 60601-1
Protection against harmful ingress of water	IPX1 (dripping water: vertically falling drops) conforming to IEC 60529
Microenvironments of pollution	level 2 conforming to IEC 60601-1
Electromagnetic compatibility (EMC) (conforming to European Directive 89/336/EEC)	tested in accordance with IEC 60601-1-2
Biocompatibility of applied parts	tested in accordance with ISO 10993 for intact skin and an application duration of <24 hours
Classification as per EC Directive 93/42/EEC	
Annex IX	II a
COMMUNICATION INTERFACES ON MEDICAL COCKPIT INFINITY® C500	
Digital outputs	**Communication interface**
USB ports 1 and 2 (one on each side panel)	passive USB storage devices only
Digital inputs	
RS 232 (9-pin) connectors 1 (on the back panel)	MEDIBUS connection to ventilator
RS 232 (9-pin) connectors 3 (on the back panel)	reserved for future use
RS 232 ports are electrically isolated from the equipment electronics (test voltage 1500 V)	

Technical Data

OPTION ADAP

The option ADAP (Advanced Data Analysis Package) extends the functionality of the basic EIT software with the following functions:

- Patient data entry
- Data recording
- Data review
- File handling
- Higher frame rate
- Filter setting Band pass
- Manual adjustment of the operating frequency

Ordering Information

Name/Description	Order-No.
PulmoVista® 500	84 20 000
LIST OF ACCESSORIES	
Trunk cable	84 20 048
Patient cable for pediatric patients, sizes XS-4XS	84 22 770
Patient cable, size S	84 20 029
Patient cable, size M	84 20 047
Patient cable, size L	84 20 035
Patient cable, size XL	84 20 271
Patient cable, size XXL	84 20 273
Electrode belt, size 4XS	84 22 583
Electrode belt, size 3XS	84 22 582
Electrode belt, size 2XS	84 22 581
Electrode belt, size XS	84 22 580
Electrode belt, size S	84 20 059
Electrode belt, size M	84 20 058
Electrode belt, size L	84 20 057
Electrode belt, size XL	84 20 056
Electrode belt, size XXL	84 20 055
ECG electrode (pack of 50)	45 27 750
Medibus cable (male/female)	83 06 488
Medibus cable (female/female)	84 16 326
Retrofit kit ADAP	84 20 006

Notes

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